

Application no. 09,988,433  
Office Action dated November 10, 2005  
Response dated February 10, 2006

## **REMARKS**

The Examiner has rejected claims 1, 6 and 8 under 35 U.S.C. 102(e) as being anticipated by Oliva et al. in U.S. Patent No. 6,654,802 for Network System and Method for Automatic Discovery and Topology Using Overhead Bandwidth. In accordance with the teachings of Oliva, a system and method is disclosed for continuously monitoring neighboring network elements and determining a physical connection topology and changes in topology among network elements. On the other hand, Applicant's invention is directed to a computer program product for determining fiber connectively along a line of a synchronous optical network including providing instructions for configuring each CPG to enable section tracing. The section trace of the instant invention permits a determination of fiber connectivity along a line made up of several sections. Each section contains fibers extending between the network elements bounding the section, and as described at page 3 line 22 et seq of the disclosure as filed each fiber is connected to a circuit pack group (CPG) within each of the two bounding network elements. As indicated at page 2 line 1 of the instant application, a circuit pack group or CPG maybe a single card or maybe a virtual CPG if more than one fiber is coupled to the card. During operation of a fiber network, interconnecting fibers may become crossed during maintenance and repair steps. An example fiber network element configuration is shown in Figure 1.

As recited in claim 1, the subject invention includes "instructions for configuring each CPG to enable section tracing". An exemplary embodiment is depicted in Figure 4, which illustrates a flow chart for a method of configuring circuit pack groups along a line of an optical network. The configuration process includes communication with each network element and configuring each CPG to populate a section trace value of each CPG. A loop is performed which is traversed to include each network element along the section line under test and a loop termination test at 124 is performed to determine if all of the network elements along the line have been traversed. In this manner, each network element along a line is configured. When all of the network elements have been configured the complete diagnostic process as outlined in the flow chart of Figure 4 is performed. Oliva does not even suggest such a configuration methodology and Applicant submits that the invention as recited

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in claim 1 is distinct from the teachings of Oliva in that Oliva fails to teach or disclose "instructions for configuring each CPG to enable section tracing".

Moreover, the invention as recited in claim 1 also includes instructions for populating a section trace transmit value as well as instructions for reading a section trace received value of each CPG. In this manner, the invention as recited in claim 1 provides elements to carry out the process disclosed in relation to Figure 4 none of which Applicant's respectfully submits is taught or suggested in the prior art Oliva reference that the Examiner has reference to. For these reasons, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection to claim 1 and all of its dependent claims including claims 6 and 8.

The Examiner has rejected claim 2 under 35 U.S.C. 103(a) as being unpatentable over Oliva in view of Shanton as disclosed in U.S. Patent 6,278,535. Applicant respectfully disagrees with the Examiner's assertion that Oliva teaches the limitations of the invention defined by claim 1 for the reasons given above.

For the Examiner to establish a prima facie case of obviousness, three criteria must be considered: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all of the claim limitations. MPEP §§ 706.02(j), 2142 (8th ed.).

For the Patent Office to combine references in an obviousness analysis, the Patent Office must do two things. First, the Patent Office must articulate a motivation to combine the references, and second, the Patent Office must support the articulated motivation with actual evidence. *In re Dembiczak*, 175 F.3d 994,999 (Fed. Cir. 1999). While the range of sources for the motivation is broad, the range of available sources does not diminish the requirement for actual evidence. *Id.*

In his rejection, the Examiner states: "*It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the computer program product*

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*of Oliva by identifying the wavelength associated with a port of a NE in the Section Trace, as shown by Shanton, since the wavelength is a parameter of the connection which is being monitoring and enables further verification of proper connectivity between the NEs by tracing the channel that carries the data of a particular message."* However, the Examiner makes this assertion based on the subject matter of the present application without providing a motivation or suggestion to combine the cited references. The present application is directed to monitoring a channel - however this should not be used as a basis to combine prior art references. Oliva is directed to discovering the topology of the network, which is different than monitoring fiber connectivity of the present application.

With respect, there is no motivation or suggestion to combine these references, apart from forbidden hindsight analysis based on the present application.

In order to prevent hindsight analysis, there must be some motivation or suggestion to combine specific prior art in such a way as to arrive to the combination disclosed in the patent at issue. See, e.g., *Yamanouchi Pharmaceutical Co., Ltd. v. Danbury Pharmacal, Inc.*, 231 F.3d 1339, 1343 (Fed. Cir. 2000): "*the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test of obviousness.*", and *Ecolchem, Inc. v. Southern California Edison Co.*, 227 F.3d at 1371-1372 (Fed. Cir. 2000), "*Combining prior art references without evidence or a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.*"

Accordingly, it is respectfully submitted that the rejection fails to establish a prima facie case of obviousness, by failing to provide and support a motivation to combine the cited references to support the rejection.

Shanton relates to a SONET J0 byte message monitoring system for a WDM system carrying a plurality of optical signals each at a respective wave length. Applicant agrees with the Examiner's assertion that Oliva describes a 16 byte message string at column 2 lines 4 through lines 13, however, the description of Oliva is merely a summary of a section trace byte defined by the SONET standard. Indeed in column 8 line 22 through column 9 line 55 Oliva provides a further summary of what the SONET standard defines for the J0 byte, and

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the path trace byte J1 as defined by the ANSI standards. These are frameworks that define interoperability of SONET equipment from various vendors and each vendor must comply with SONET standards to supply SONET equipment. Notwithstanding that the SONET standard does indeed refer to a 16 byte section trace byte based message string, Applicant has disclosed and claimed a computer program product that determines fiber connectivity along a line of a synchronous optical network including the three elements recited in claim 1. Applicant submits that the invention defined by claim 1 of the subject application is not anticipated or made obvious by the teachings of Oliva which are completely unrelated to the algorithm and process steps that Applicant has claimed in the subject application.

While Shanton does refer to a multiple wavelength system, Applicant submits that there is nothing in the teachings of Shanton which overcome the shortcomings of Oliva to make the invention as defined in claim 1 or claims 1 and 2 of the subject application obvious from the teachings of either of the references relied on by the Examiner. For these reasons, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claim 2 under 35 U.S.C. 103(a).

The Examiner has rejected claims 4 and 7 under 35 U.S.C. 103(a) as being unpatentable over Oliva in view of Bawa et al. in U.S. 6,212,169.

Applicant respectfully disagrees with the Examiner's assertion that Oliva teaches all limitations of the base claim. With respect, Applicant submits that Oliva fails to teach "instructions for configuring each CPG to enable section tracing" nor does Oliva teach "instructions for populating a section trace transmit value of each CPG with a section trace identifier value unique to the CPG and instructions for reading a section trace received value of each CPG" as recited in claim 1 of the subject application. Moreover, the Examiner has confirmed that Oliva does not explicitly disclose the ability to reset the original user configuration of each CPG nor any of the other instruction elements set out in dependent claim 4 of the subject application. The Examiner has combined the teachings of Bawa with those of Oliva to assert that claim 4 is obvious contrary to 35 U.S.C. 103(a) over the teachings of Oliva and Bawa. However, the Examiner has failed to indicate what the motivation for combining the teachings of Oliva and Bawa are. Bawa deals with a completely unrelated aspect of network management, which is data traffic management in a switched digital

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communications network. Once a network is configured and operational to carry data then call completion and adding and dropping paths within the data network are traffic management processes that must be carried out to operate the network. The teachings of Bawa are directed to parameter reconfiguration of connected calls and disclose methods of reconfiguring traffic parameters of connected calls or logical links and determining whether the reconfigured parameters comply with network constraints. Applicant submits that this process is completely unrelated to the problems associated with interconnecting networks elements using fibers as recited in the subject parent claim. There is nothing that the Examiner has pointed to in the teachings of Oliva or Bawa that would provide a motivation to combine these two references. Moreover, the two references are directed to different operational aspects of a network and a different context for which the solutions proposed by Oliva and Bawa operate in accordance with. There is nothing in the teachings of either Bawa or Oliva to suggest that the operating constraints and context at Bawa is directed to has any application to the problems that confront Applicant in performing a section trace of a network to determine fiber connectivity or incorrect fiber placement. Accordingly, Applicant respectfully disagrees with the assertions of the Examiner and asks that Examiner reconsider and withdraw the rejection of claims 4 and 7 under 35 U.S.C. 103(a).

The Examiner has rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over Oliva in view of Shanton as applied to claim 1 above, and further in view of Bawa. Applicant respectfully disagrees that Oliva teaches the limitations in the base claim and there is nothing from the teachings of Shanton that would render obvious the further limitations recited in claim 2. Moreover, adding Bawa to this mix of prior art to assert that the further limitations introduced by Applicant in dependent claim 5 is, in Applicant's submission, a completely unwarranted combination of three unrelated pieces of prior art. Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claim 5 for the reasons described earlier and on the basis that there is no motivation to combine these three disparate references to attempt to arrive at the solution proposed by Applicant and recited in dependent claim 5 of the subject application.

The Examiner has rejected claims 9 through 14 under 35 U.S.C. 103(a) as being unpatentable over Oliva in view of Miyake et al. in published U.S. Patent Application U.S. 20050025071. Applicant respectfully disagrees with the Examiner's interpretation of the

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teachings of Oliva in relation to claim 1 for the reasons given more fully above. Consequently, Applicant disagrees that the teachings of Oliva even when combined with those of Miyake overcome the limitations recited in claim 9 of the subject application. At claim 9 Applicant recites a computer program including "instructions for receiving as input and identification of a first selected NE" and "instructions for reading the stored section trace transmit value of each CPG which belongs to the first selected NE" among other elements. Figure 11 of Oliva does show a network element pair interconnected by an NE-NE connection fiber WDM 100. Each NE has a unique identifier 66 entered into a register 72 associated with a given output port, such as port 52 as described at column 9 line 56 through column 10 line 18. However, Applicant's claim 9 recites "instructions for receiving as input an identification of a first selected NE". The identification of a start NE is referred to in Figures 4, 7 and 8 of the subject application and is part of the section trace process described in the subject application in relation to those figures. The computer product that Applicant recites in claims 1 and 11 of the subject application are neither taught nor suggested by Oliva taken alone or Oliva in combination with Miyake.

In claim 11 Applicant recites "reading a section trace transmit value of each CPG of the first NE", "reading a section trace received value of each of each CPG of the first NE" and "displaying equipment information which identifies the first NE" and "displaying section trace information comprising at least one section trace block". The Examiner notes that Oliva does not explicitly disclose displaying the various information communicated between the NE's through use of the section trace. The Examiner has referred to Oliva and Miyake as disclosing the method steps recited in claim 11 of the subject application, however, the Examiner has failed to indicate what the reason or motivation for combination of the Oliva and Miyake references are. The teachings of the subject application and the invention defined by claim 11 and dependent claim 12 are distinct from and neither anticipated by or obvious from the teachings of Oliva for the reasons given above. The combination of Oliva with Miyake fails in Applicant's view to teach or suggest the method steps set out in claim 11 of the subject application. The method is particularized by the reading and displaying steps set out in claim 11 of the subject application and Applicant disagrees that the teachings of Oliva or Miyake disclose the subject matter claimed in claim 11. The information that Applicant's method gathers from the network elements and the manner in which that information is gathered and displayed is described in the application as filed with reference to the accompanying drawings.

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For these reasons Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claim 11 and dependent claim 12 of the subject application.

Claim 13 recites a computer program product for displaying a fiber connectivity between a first network element and a second network element of synchronous optical network which provides: "instructions to read a section trace transmit value of each CPG in the first NE" and "instructions for reading a section received value of each CPG of the first NE" as well as "instructions for displaying equipment information which identifies the first NE" and "instructions for displaying section trace information comprising at least one section trace block, each section trace block corresponding to the CPG in the first NE". Examples of particular embodiments are described in the subject application with reference to Figures 4, 7 and 8 of the application with further details of the information displayed in the manner of display provided in Figures 9 and 10 of the drawings that were submitted with the instant application. The teachings of Oliva fail to even suggest the computer program product process steps recite in claim 13. While Oliva is also directed to the standards framework of the SONET standard, the arrangement and implementation taught by Applicant in the subject application and recited in claim 13 as well as in dependent claim 14 are completely outside the purview of the teachings of Oliva, even taking those teachings to include the network management system of Miyake. Consequently, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections to claims 13 and 14 of the subject application for the reasons given above. Consequently, the Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claims 9 through 14 in view of the foregoing.

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Favourable consideration is respectfully requested. All of which is respectfully submitted.

No fee is believed due for this submission. However, Applicant authorizes the Commissioner to debit any required fee from Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP. The Commissioner is further authorized to debit any additional amount required, and to credit any overpayment to the above-noted deposit account.

Respectfully submitted,

NESBIT, Alan D. et al.

By: 

Terry L. Leier  
Reg. No. 41,554  
Borden Ladner Gervais LLP  
World Exchange Plaza  
100 Queen Street, Suite 1100  
Ottawa, ON K1P 1J9  
CANADA  
Tel: (613) 237-5160  
Fax: (613) 787-3558  
E-mail: ipinfo@blgcanada.com

TLL/JMM/dbm